IN THE CLAIMS

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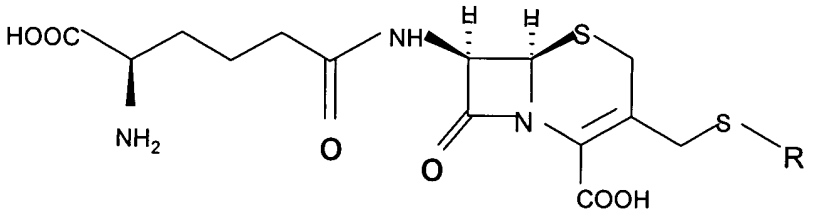
44. (New) A process for preparing 3-thiolated 7-aminocephalosporanic acid derivatives of formula (I), suitable as enzymatic substrates,wherein R is a heterocyclic group selected



(I)

from any one or more of the group comprising thienyl, diazolyl, tetrazolyl, thiazolyl, triazinyl, oxazolyl, oxadiazolyl, pyridyl, pirimidinyl, or any derivative thereof, preferably 5-methyl-1,3.4-thiadiazol-2-yl, 1-methyl-1H-tetrazol-5-yl or 1,2,5,6-tetrahydro-2-methyl-5,6-dioxo-1,2,4-triazin-3-yl,

comprising the steps:-

reacting cephalosporin C with a thiol compound of the general Formula IV

R-SH (IV)

wherein R is as defined above,

to form a compound of formula I

and, after formation of the compound of formula I, removing excess thiol of Formula IV by adsorption of said thiol on an anion exchange resin.

45. (New) The process as claimed in claim 44 wherein the anion exchange resin is a microporous resin having a cross-linked acrylic copolymer structure.

46. (New) The process as claimed in claim 45 wherein the anion exchange resin comprises an 8% cross-linking containing functional thialkyl benzyl ammonium group.

47. (New) The process as claimed in claim 45 wherein the resin is in the chloride, hydroxy, phosphate or acetate cycle.

48. (New) The process as claimed in claim 44 wherein the excess thiol is removed by crystallisation prior to the adsorption on an anionic exchange resin.

49. (New) The process as claimed in claim 48 wherein crystallisation is carried out at an acidic pH.

50. (New) The process as claimed in claim 44 wherein the cephalosporin C is in an aqueous medium.

51. (New) The process as claimed in claim 44 wherein the cephalosporin C is in the form of a concentrated cephalosporin C solution.

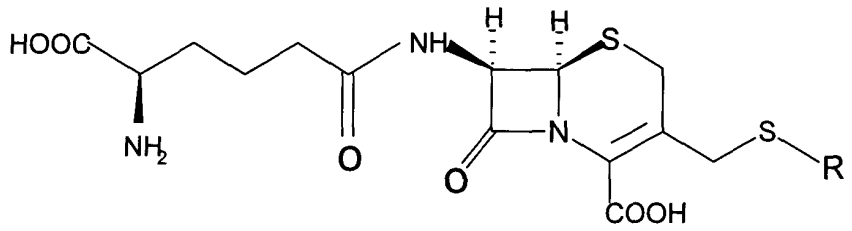
52. (New) The process as claimed in claim 44 wherein the reaction is carried out at a pH of between 5.5 and 8.0, at a temperature of from 60°C to 80°C, for a period of from 1 to 12 hours.

53. (New) The process as claimed in claim 52 wherein the reaction is carried out at a pH of approximately 6.0 and at a temperature of approximately 65°C.

54. (New) The process as claimed in claim 44 wherein the thiol compound is present in an amount of between 1 and 5 mol/mol of cephalosporin C.

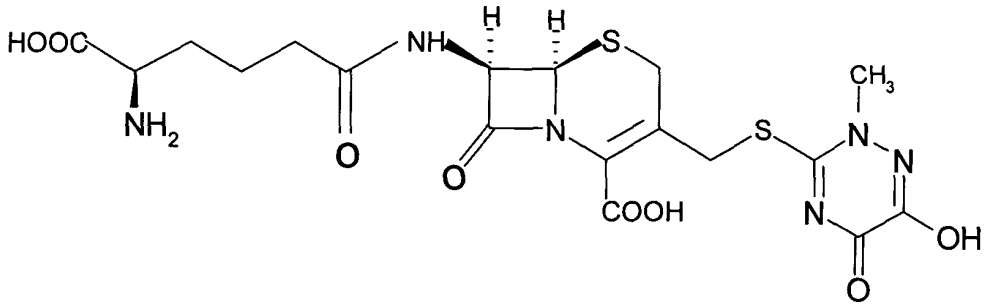
55. (New) The process as claimed in claim 44 wherein compounds of Formula I are in a solid form or in the form of a non-toxic salt thereof.

56. (New) A compound of formula:-



wherein R is heterocyclic group selected from any one or more of the group comprising thienyl, diazolyl, tetrazolyl, thiazolyl, triazinyl, oxazolyl, oxadiazolyl, pyridyl, pirimidinyl, or any derivative thereof, preferably 5-methyl-1,3.4-thiadiazol-2-yl, 1-methyl-1H-tetrazol-5-yl or 1,2,5,6-tetrahydro-2-methyl-5,6-dioxo-1,2,4-triazin-3-yl.

57. (New) A compound of the formula:-



wherein in formula I, R is 1,2,5,6-tetrahydro-2-methyl-5,6-dioxo-1,2,4-triazin-3-yl.–